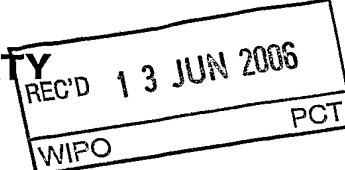


PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)





Applicant's or agent's file reference MR/39809	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB2005/000738	International filing date (day/month/year) 28.02.2005	Priority date (day/month/year) 04.03.2004
International Patent Classification (IPC) or both national classification and IPC INV. E02B3/10 E02B7/44		
Applicant FORREST, John Charles Macintosh		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 03.01.2006	Date of completion of this report 12.06.2006
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Van Bost, S Telephone No. +31 70 340-4618 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB2005/000738

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-13 as originally filed

Claims, Numbers

1-16 filed with telefax on 03.01.2006

Drawings, Sheets

1/8-8/8 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/GB2005/000738**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	7,11,13-15
	No: Claims	1-6,8-10,12,16
Inventive step (IS)	Yes: Claims	
	No: Claims	1-16
Industrial applicability (IA)	Yes: Claims	1-16
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

The document EP-A-0 802 285 discloses (see col.6/l.40-col.7/l.18, fig.1,5,6,8) an apparatus suitable for flood defence comprising a base (1), at least one slab unit (5) rotatable about an axis (9) between lowered and raised positions and being substantially balanced (see col.7/l.15-18) about the axis (9), the at least one slab unit (5) being rotatable relative to the base (1) and comprising at least part of a barrier for water retention when in its raised position, substantially at least one third of the height of the slab unit (5) comprising a downward part being positioned downwardly of the axis (9) when the at least one slab unit (5) is in its raised position, the apparatus further comprising sealing means for forming a seal (8) between the base (1) and the downward part of the slab unit (5) when the at least one slab unit (5) is in its raised position.

The remaining feature of claim 1, i.e. "hydrostatic pressure deployed from water being retained by the slab unit acts directly on the downward part of the slab so as to compress the seal" is a non-distinctive characteristic of a particular intended use. Since claim 1 is directed to a physical entity, i.e. an apparatus, this remaining characteristic limits the subject-matter insofar, that the known apparatus merely has to be suitable for the particular use. In other words, if the known apparatus is suitable for that use, these characteristics should be disregarded in interpreting claim 1 for determining novelty.

The slab unit 5 in document EP-A-0 802 285 could retain water on the left side of said slab unit in figure 1, and the hydrostatic pressure deployed from this water would in such a case act directly on the downward part of the slab unit 5 so as to compress the seal 8. So, the known apparatus is suitable for the above mentioned use.

Document EP-A-0 802 285 thus discloses all the features of claim 1 and therefore the

subject-matter of claim 1 is not new.

2. The same reasoning applies, *mutatis mutandis*, to the subject-matter of the corresponding independent claim 16, which therefore is also considered not new.
3. Document EP-A-0 802 285 furthermore discloses the features of claims 2 (cf. channel 4 in figs. 1, 5, 6, 9), 3 and 4 (see col. 7/l. 35-40, col. 8/l. 42-49, figs. 1, 2a, 4, 5, 7b, 8, 9), 5 and 6 (cf. clamping means 15, 16 in figs. 3a, 3b, 4, sealing means 14 are implicit removable), 8 and 9 (see col. 7/l. 15-17), 10 (biasing means are implicitly present) and 12 (see fig. 5). The subject-matter of these claims are thus also deprived of novelty.
4. The dependent claims 7, 11 and 13-15 do not appear to contain any additional features which, in combination with the features of any other claim to which they refer, involve an inventive step.

The advantages achieved with these features can, without further preface, be recognised from the following documents:

- claim 7: WO-A-01 11147, cf. removable portion of sealing means 11, see p. 8/l. 25-p. 9/l. 11, figs. 1, 9;
- claim 11: EP-A-0 741 205, cf. movable weight 6, see col. 5/l. 40-44, col. 6/l. 4-11, fig. 1;
- claim 13: US-A-6 390 730, see col. 7/l. 39-45, fig. 2, 4, 5, 6;
- claim 14: DE-A-34 01 010, cf. strut 6, see figs. 1, 2;
- claim 15: US-A-6 390 730, cf. locking means 15, see col. 6/l. 62-67, fig. 6.

CLAIMS:

1. An apparatus suitable for flood defence comprising a base (5), at least one slab unit (3) rotatable about an axis (4) between lowered and raised positions and being substantially balanced about the axis (4), the at least one slab unit (3) being rotatable relative to the base (5) and comprising at least part of a barrier for water retention when in its raised position, substantially at least one third of the height of the slab unit (3) comprising a downward part being positioned downwardly of the axis (4) when the at least one slab unit (3) is in its raised position, characterized by sealing means (21) for forming a seal between the base (5) and the downward part of the slab unit (3) when the at least one slab unit (3) is in its raised position whereby hydrostatic pressure deployed from water being retained by the slab unit (3) acts directly on the downward part of the slab unit (3) so as to compress the seal.

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2. The apparatus as claimed in claim 1, wherein the base (5) comprises a channel (9) into which a part of the or each slab unit (3) rotates downwardly upon deployment.

20 3. The apparatus as claimed in claim 1 or 2, including sealing means between a said slab unit (3) and an adjacent abutment (6) or slab unit (3).

4. The apparatus as claimed in claim 3, wherein the sealing means (43) between a said slab unit (3) and an adjacent abutment (6) or slab unit (3) forms a continuous seal with the sealing means (21) between the at least one slab unit (3) and base (5) when the at least one slab unit is in its raised position.

25 5. The apparatus as claimed in claim 3 or 4, wherein the sealing means between a said slab unit (3) and an adjacent abutment (6) or slab unit (3) comprises at least one hinged or removable portion (43).

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6. The apparatus as claimed in claim 5, including clamping means (47) for clamping the hinged or removable portion (43) against at least one seal (46).
- 5 7. The apparatus as claimed in claim 5 or 6, wherein the removable portion comprises a removable board (43).
8. The apparatus as claimed in any preceding claim, wherein the slab unit (3) comprises different portions with different densities for balancing the slab unit (3) when the slab unit is not centrally positioned relative to the axis (4).
- 10 9. The apparatus as claimed in claim 8, wherein at least one portion of the slab unit (3) with a different density includes at least one counterweight (24).
- 15 10. The apparatus as claimed in any preceding claim, including means to bias the at least one slab unit (3) towards the raised position.
11. The apparatus as claimed in claim 10, wherein the biasing means comprises a movable weight (51).
- 20 12. The apparatus as claimed in any preceding claim, wherein the slab unit (3) forms at least part of a paved way when in its lowered position.
13. An installed apparatus for flood defence as claimed in any preceding claim, wherein a substantial portion of the base (5) projects above ground level so that the apparatus provides a first level of flood defence when the or each slab unit (3) is in its lowered position and the apparatus is arranged to provide a higher second level of flood defence when the or each slab unit (3) is in its raised position.
- 25 30

14. The apparatus as claimed in any preceding claim, including at least one strut (3) which is adjustable in length for supporting at least one said slab unit (3) in its raised position.

5 15. The apparatus as claimed in any preceding claim, including locking means (17,18) for locking at least one said slab unit (3) in its lowered position.

16. A method for flood defence comprising the steps of:

substantially balancing at least one slab unit (3) about an axis (4); and

10 rotating the at least one slab unit (3) about the axis (4) relative to a base (5) from a lowered position to a raised position so that when the at least one slab unit (3) is in the latter position it comprises at least part of a barrier for water retention, and substantially at least one third of the height of the slab unit (3) is positioned downwardly of the axis (4); characterized by the steps of:

15 forming a seal between the base (5) and the downward part of the slab unit (3) when the at least one slab unit (3) is in its raised position; and

retaining water by the at least one said slab unit (3) in its raised position whereby hydrostatic pressure deployed from the retained water acts directly on the downward part of the slab unit (3) so as to compress the seal.

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